

Appl. No. 10/035,567
Resp. dated Apr. 27, 2006
In Reply to Office Action of Dec. 27, 2005

REMARKS

Claims 1-28 are pending in the present application.

Claim 4 has been objected to due to noted informalities. Claim 4 has been amended. It is respectfully requested that the objection be withdrawn with respect to claim 4.

Applicant gratefully acknowledges that claims 3 and 4 recite patentable subject matter. However, it is believed that claims 3 and 4 are in condition for allowance in view of the remarks herein.

Claim 1 recites, in part, "computing a first averaged sample sum using the first sample sum; computing a second averaged sample sum using the second sample sum; computing a third averaged sample sum using the third sample sum".

In the Office Action, it is admitted that the Andren patent does not teach at least the above-identified elements as set forth in claim 1. See Office Action at page 4. Instead, the Office Action, without any documentary support, alleges "[a]s common knowledge of an average skill in the art, because the signal can fluctuate during the selected period of time and the fluctuation can have big effect on the accumulated sums, for that reason, it would have been obvious for one of ordinary skill in the art at the time the invention was made that Andren et al. teachings can be modified so that averaging can be performed on the accumulated sums of the early, on-time and late sample positions with respect to the symbol timing of the received signal". Office Action at page 4.

Applicant respectfully submits that the explanation provided by the Office Action is not self-explanatory. As alleged by the Office Action, will not the fluctuations affect the averages as well as the accumulated sums as alleged by the Office Action? If not, why not? Could the Examiner kindly explain how the averaging scheme works?

If the Office Action is alleging some scheme by which the sums are divided by a particular number, then how will the fluctuations be minimized? **If the Office Action is alleging some scheme by which the sums are divided by a particular number, then will not the "fluctuation" as well as the "non-fluctuation" accumulated values also be reduced by the**

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SAME number? Where's the advantage in that? Accordingly, how does using the averaging mechanism alleged in the Office Action at page 4 provide any advantage to the Andren patent?

Applicant respectfully requests that the subsequent Office Action further explain, perhaps with numerical examples, how the averaging scheme alleged in the Office Action at page 4 would work to solve the problem of "fluctuations" as set forth in the Office Action at page 4.

Please explain, perhaps with numerical examples, how the Andren patent would be improved with respect to "fluctuations" as alleged in the Office Action.

(Note: Applicant is neither agreeing nor disagreeing with any alleged schemes, herein or in the Office Action, relating to "averaging" in determining the scope of the claimed inventions).

Since the Office Action takes the extraordinary step of merely stating what is "common knowledge" without providing any documentary support, Applicant respectfully requests that the Examiner provide a document showing (1) averaging of sums to solve the problem of fluctuations and (2) the alleged benefit as set forth in the Office action in the context of the claimed inventions. Applicant respectfully draws the attention of the Examiner to the fact that Applicant is challenging that, in the context of the claimed invention as set forth in claim 1, "computing a first averaged sample sum using the first sample sum; computing a second averaged sample sum using the second sample sum; computing a third averaged sample sum using the third sample sum" is useful, novel and non-obvious and is not well known or obvious.

Furthermore, the addition of such "averaging" circuitry as alleged in the Office Action at page 4 would teach away from an object of the Andren invention which is "minimizing additional circuitry and power consumption". The Andren patent at col. 2, lines 62-65. Thus, in the context of modifying the Andren invention, inserting additional circuitry and draining more power teaches away from the teachings of the Andren patent. It is therefore respectfully submitted that the obviousness rejection cannot be maintained.

Claim 1 also recites, in part, "accumulating a first sample sum value for a first set of DC compensated samples of the received data signal, the first set of DC compensated samples corresponding to a first timing hypothesis; accumulating a second sample sum for a second set of

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DC compensated samples of the received data signal, the second set of DC compensated samples corresponding to a second timing hypothesis; accumulating a third sample sum value for a third set of DC compensated samples of the received data signal, the third set of DC compensated samples corresponding to a third timing hypothesis”.

The Office Action states that “Andren et al. teaches accumulating sums of the magnitudes associated with each sample position, however, does not teach accumulating a first sample sum, a first sample sum and a third sample sum as set forth in the claim”. Office Action at page 3. However, “[I]n column 4, lines 25-35, Andren et al. expresses that in one aspect of the invention, the relationship among the early, largest and late samples can be used to adjust the bit synchronization with respect to the symbol timing of the received signal.” Office Action at page 3.

However, the reference in the Andren patent refers to single points S, E and L found in FIG. 2 of the Andren patent. The preceding disclosure at Andren at col. 4, lines 14-25 teaches a single sample at S, a single sample at E and a single sample at L to determine which has the highest magnitude. Thus, if the entire paragraph in the Andren patent at col. 4, lines 14-35 is taken in its *entirety*, then it is clear that this teaching of the Andren patent teaches away from accumulating a first sample sum value, a second sample sum value and a third sample sum value as set forth in claim 1.

Thus, in view of the evidence presented in the Office Action, the Andren patent at col. 4, lines 25-35 should not be taken out of context of the paragraph at col. 4, lines 14-35 and does not teach a first sample sum value, a second sample sum value and a third sample sum value as set forth in claim 1.

Furthermore, the above recited elements include elements such as “DC compensated samples of the received data signal”. Even if the Dutkiewicz patent teaches a DC offset loop, such a loop cannot be inserted in the Andren invention. First, the Andren invention teaches away from “additional circuitry and power consumption”. The Andren patent at col. 2, lines 61-65. In addition, the Andren invention teaches away from DC compensated samples. The attention of

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the Examiner is respectfully drawn to the Andren patent at FIG. 1 which shows a signal 10, which is being sampled, and which appears to have a DC offset. Accordingly, it is respectfully submitted that the Dutkiewicz patent and the Andren patent teach away from each other.

The above-described teaching deficiencies of the Andren patent are not made up by the Dutkiewicz patent. Accordingly, the obviousness rejection of claim 1 and its rejected dependent claims (i.e., claims 2 and 5-11) cannot be maintained.

It is therefore respectfully requested that the obviousness rejection be withdrawn with respect to claims 1, 2 and 5-11.

Claim 19 recites, in part, "means for computing a first averaged sample sum using the first sample sum; means for computing a second averaged sample sum using the second sample sum; means for computing a third averaged sample sum using the third sample sum". Thus, the same arguments made with respect to claim 1 can be made with respect to claim 19.

It is respectfully requested that the obviousness rejection be withdrawn with respect to claim 19 and its rejected dependent claims (i.e., claims 20-25).

Claim 16 stands rejected as the recitation of a *new intended use*. Respectfully, this rejection has been improperly applied and should be reconsidered. A "new intended use" rejection typically refers to functional language. Claim 16 does not use function language. Instead, claim 16 recites structure. Applicant respectfully requests that the Examiner point out which part of *In re Schreiber* supports the rejection and why it is applicable to the subject matter recited in claim 16.

It is respectfully requested that the rejection be withdrawn with respect to claim 16.

Claim 12 recites, in part, "a plurality of sample accumulators, each of the plurality of sample accumulators being coupled with the DC offset compensator". Neither the Andren patent nor the Dutkiewicz patent taken individually or combined teaches a plurality of sample accumulators as set forth in claim 12.

In addition, any applicable arguments, if appropriate, made with respect to claim 1 are also made with respect to claim 12.

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For at least the above reasons, it is respectfully requested that the obviousness rejection be withdrawn with respect to claim 12 and its rejected dependent claims (i.e., claims 13-18).

The arguments made with respect to claim 1 are also made, if appropriate, with respect to claim 26.

For at least the above reasons, it is respectfully requested that the obviousness rejection be withdrawn with respect to claim 26 and its rejected dependent claims (i.e., claims 27 and 28).

In addition, claim 27 recites "an initial estimation module". The Office Action at page 10 alleges that a DC offset removal inherently performs an initial estimation. Applicant respectfully draws the attention of the Examiner to the Response dated Oct. 3, 2005, in which Applicant carefully explained the proper use of the inherency doctrine. The Response dated Oct. 3, 2006 is hereby incorporated by reference herein in its entirety. Furthermore, Applicant respectfully draws the attention of the Examiner to the Response dated Oct. 3, 2005, in which Applicant discussed the inapplicability of the teachings of the Dutkiewicz patent with respect to claim 27. Applicant respectfully requests that the Examiner reconsider the arguments therein which have been incorporated by reference herein in their entirety.

Claim 28 also recites, in part, "a plurality of sample accumulators, each of the plurality of sample accumulators being coupled with the DC offset compensator". Neither the Andren patent nor the Dutkiewicz patent taken individually or combined teaches a plurality of sample accumulators as set forth in claim 12.

For at least the above reasons, it is respectfully requested that the obviousness rejection be withdrawn with respect to claim 26 and its rejected dependent claims (i.e., claims 27 and 28).

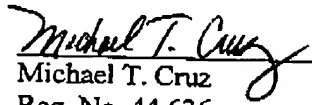
In view of at least the foregoing, it is respectfully submitted that the pending claims 1-28 are in condition for allowance. Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the below-listed telephone number.

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The Commissioner is hereby authorized to charge additional fees or credit overpayments to the deposit account of McAndrews, Held & Malloy, Account No. 13-0017.

Date: April 27, 2006

Respectfully submitted,


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